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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/837,787      | 04/18/2001  | Keiji Shioda         | 14528               | 9927             |

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| EXAMINER |
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| ART UNIT | PAPER NUMBER |
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3739

DATE MAILED: 02/05/2004

13

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/837,787

Applicant(s)

SHIODA ET AL.

Examiner

Aaron Roane

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 26-172 is/are pending in the application.
- 4a) Of the above claim(s) 28,30-32,39,41-78,85 and 87-172 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 26,27,29,33-38,40,79-84 and 86 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of species #1 in Paper No. 11 is acknowledged.

Applicant asserts that claims 26, 27, 29, 33-38, 40, 56-61, 63, 79-84, 86, 102-107, 109, 125-131, 133, 149-155 and 157 are drawn to species #1. However, claims 56-61, 63, 102-105 and 109 are directly or indirectly dependent on claim 28, which corresponds to a non elected species and therefore withdrawn. Claims 106 and 107 are directly dependent on claim 30, which corresponds to a non elected species and therefore withdrawn. Claims 125-131 and 133 are directly dependent on claim 31, which corresponds to a non elected species and therefore withdrawn. Claims 149-155 and 157 are directly dependent on claim 32, which corresponds to a non elected species and therefore withdrawn.

Therefore, only claims 26, 27, 29, 33-38, 40, 79-84 and 86 will be examined.

**Claims 56-61, 63, 102-107, 109, 125-131, 133, 149-155 and 157 are hereby withdrawn from further consideration.**

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 38, 40, 84 and 86 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 38 and 84 recite the limitation "said display driver" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. Claims 38 and 84 also recite the limitation "said corresponding image display" in line 6. There is insufficient antecedent basis for this limitation in the claim. Furthermore, claims 38 and 84 recite "an image selector" in line 3. An image selector has already been recited in claims 27 and 29 on which claims 38 and 84 depend respectively. The examiner has simply ignored the reference in claims 38 and 84 to "an image selector" for the purposes of examination.

Claims 40 and 86 recite the limitation "said display driver" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

The examiner suggests changing "claim 36, said display driver comprises an XY driver" to -- claim 36 further comprising a display driver in the form of an XY driver—in claim 40. This is the interpretation of the examiner for the purposes of examination.

Similarly, the examiner suggests changing "claim 82, said display driver comprises an XY driver" to -- claim 82 further comprising a display driver in the form of an XY driver—in claim 86. This is the interpretation of the examiner for the purposes of examination.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 26, 27 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyagi (USPN 5,601,549).

Regarding claim 26, Miyagi discloses a device comprising a micro scope image observer (15), at least one image forming section (20, 28a, 28b and 28c), an image display (30 and S2) for displaying a desired one of the images formed by said at least one image forming section, a detector (CCD 40) for detecting the state of an image source and a display-state changer (25) for automatically changing a display state of the image displayed by said image display, see col. 2-4 and figures 1-6.

Regarding claim 27, Miyagi further discloses an image selector (shutter 32) for selecting at least one of the images formed by the at least one image forming sections, see col. 2, lines 27-38, col.3, lines 22-55 and col. 4, lines 36-50 and figure 1.

Regarding claim 29, Miyagi further discloses display-mode switcher (endoscope push button not shown) for switching the display mode of the image displayed by said image display, see col. 3, lines 22-40.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 33-37 and 79-83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagi (USPN 5,601,549) in view of Gildenberg (USPN 5,961,456).

Regarding claims 33 and 79, Miyagi further discloses an image display comprising an in-field display (S2), see figure 2. However, Miyagi fails to disclose an out-of-field display outside of the field of the observation image. Gildenberg discloses a microscope image observer (M), a plurality of image forming sections (6, 26 and others, see col. 7, lines 48-58), an image display (55, 56 and D, D1, D2 and D3), a display driver and controller (10). Gildenberg further discloses said image display comprises an out-of-field display (15) (see col. 5, lines 38-54 and col. 7, lines 48-58), see figures 1-3, elements 11, 15-17, 30, 31 and D, D1, D2 and D3, in order to display "side-by-side" the microscope observed image and another image (MRI, CT, etc.) to visually enhance surgical procedure, see abstract, col. 1-4. Therefore at the time of the invention it would have been obvious to

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one of ordinary skill in the art to modify the invention of Miyagi, as taught by Gildenberg, to provide an out-of-field display outside of the field of the observation image in order to visually enhance surgical procedure by providing an additional image of the surgical site in the form of a CT, MRI or the like.

Regarding claims 34 and 80, Miyagi discloses the claimed invention. Miyagi discloses the cut-out in-field (S2) display within or cut from the microscope image, see figure 2 and col. 3.

Regarding claims 35 and 81, Miyagi discloses the claimed invention except for superimposing in-field image. Gildenberg discloses a microscope image observer (M), a plurality of image forming sections (6, 26 and others, see col. 7, lines 48-58), an image display (55, 56 and D, D1, D2 and D3), a display driver and controller (10). Gildenberg teaches an in-field display comprising a superposition section, see col. 5, lines 38-46 and col. 3, lines 58-66 and figure 1, elements 11, 15 and 16 and finally col. 6, lines 42-50, in order to visually enhance surgical procedure by providing an additional image of the surgical site in the form of a CT, MRI or the like through "viewing the comparative images of the computer reconstructed data" and the microscope image, see abstract, col. 1-4, and specifically, 5, lines 38-46 and figures 2 and 3. Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the invention of Miyagi, as taught by Gildenberg, to superimpose the image from the at least one image forming section onto the microscope image as an alternate viewing state in

order to visually enhance surgical procedure by providing an additional image of the surgical site in the form of a CT, MRI or the like through “viewing the comparative images of the computer reconstructed data” and the microscope image.

Regarding claims 36, 37, 82 and 83, Miyagi discloses the claimed invention including the cut-out in-field (S2) display within or cut from the microscope image, see figure 2 and col. 3. However, Miyagi fails to disclose the image superimposing section of the in-field image. Gildenberg discloses a microscope image observer (M), a plurality of image forming sections (6, 26 and others, see col. 7, lines 48-58), an image display (55, 56 and D, D1, D2 and D3), a display driver and controller (10). Gildenberg teaches an in-field display comprising a superposition section, see col. 5, lines 38-46 and col. 3, lines 58-66 and figure 1, elements 11, 15 and 16 and finally col. 6, lines 42-50, in order to visually enhance surgical procedure by providing an additional image of the surgical site in the form of a CT, MRI or the like through “viewing the comparative images of the computer reconstructed data” and the microscope image, see abstract, col. 1-4, and specifically, 5, lines 38-46 and figures 2 and 3. Finally, the small cut out infield section showing the endoscope field of view disclosed by Miyagi with the addition of the superimposing section that superimposes the microscope image with another image selected from a CT, MRI or the like meets the claimed invention. Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the invention of Miyagi, as taught by Gildenberg, to superimpose the image from the at least one image forming section onto the microscope image as an alternate viewing state in order to



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visually enhance surgical procedure by providing an additional image of the surgical site in the form of a CT, MRI or the like through “viewing the comparative images of the computer reconstructed data” and the microscope image.

Claims 38 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagi (USPN 5,601,549) in view of Gildenberg (USPN 5,961,456) and still in further view of Sklar et al. (USPN 5,098,426).

Regarding claims 38 and 84, Miyagi discloses the claimed invention. Miyagi is silent regarding the display controller and the operation input section. However, Miyagi discloses that a large number of imaging devices/sources may be used with the device as is well known in the art, for example an ultrasound probe, CT and MRI images, etc. (see col. 7, lines 48-57). Similarly Gildenberg discloses a surgical microscope system including a video controller (10) “capable of mixing signals representative of different images in accordance with desired formats,” see col. 3, lines 45-57 and figure 1. The examiner interprets this to mean that an image from any one of the desired image devices/sources can be selected by the video controller. Although it is well known in the art to provide an input device (keypad, switch or the like) in order to select the desired image from any one of the image devices/sources, Gildenberg is silent regarding this feature. However, Sklar et al. disclose a microscope apparatus with a detailed display capabilities and teach or demonstrate the well known feature of providing the display means (24) with an input means or “user interface” (83) capable of displaying different

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images from different image sources in different quadrants of the display screen in order to provide the surgeon/user with an abundance of visual information regarding the operation site to further facilitate the procedure, see abstract, col. 3, lines 28-68, col. 4, lines 1-11, all of cols 13 and 14, col. 15, lines 1-10 and figures 1 and 2. Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the invention of Miyagi, as is well known in the art and shown by Gildenberg, to include a video controller “capable of mixing signals representative of different images in accordance with desired formats,” and as further taught by Sklar et al., to provide the display means with an input means or “user interface” capable of displaying different images from different image sources in different quadrants of the display screen in order to provide the surgeon/user with an abundance of visual information regarding the operation site to further facilitate the procedure.

Claims 40 and 86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagi (USPN 5,601,549) in view of Gildenberg (USPN 5,961,456) as applied to claims 36 and 82 above, and in further view of Sklar et al. (USPN 5,098,426) and still in further view of being well known in the art as shown by Morgan et al. (USPN 6,054,985).

Regarding claims 40 and 86, Miyagi discloses the claimed invention except for explicitly reciting an XY driver for moving the small screen display. Miyagi is silent regarding the display controller and the operation input section. However, Miyagi discloses that a large number of imaging devices/sources may be used with the device as is well known in the

art, for example an ultrasound probe, CT and MRI images, etc. (see col. 7, lines 48-57). Similarly Gildenberg discloses a surgical microscope system including a video controller (10) "capable of mixing signals representative of different images in accordance with desired formats," see col. 3, lines 45-57 and figure 1. The examiner interprets this to mean that an image from any one of the desired image devices/sources can be selected by the video controller. Although it is well known in the art to provide an input device (keypad, switch or the like) in order to select the desired image from any one of the image devices/sources, Gildenberg is silent regarding this feature. However, Sklar et al. disclose a microscope apparatus with a detailed display capabilities and teach or demonstrate the well known feature of providing the display means (24) with an input means or "user interface" (83) capable of displaying different images from different image sources in different quadrants of the display screen in order to provide the surgeon/user with an abundance of visual information regarding the operation site to further facilitate the procedure, see abstract, col. 3, lines 28-68, col. 4, lines 1-11, all of cols 13 and 14, col. 15, lines 1-10 and figures 1 and 2. Finally, it is well known to provide the capability of moving windows or image windows when dealing with a plurality of image windows on one display screen in order to observe in an unobstructed fashion any particular image window. Morgan et al. disclose a JAVA based method of rearranging windows on a (computer) display screen by performing "drag and drop" procedures, see abstract and col. 1-6 and figures 1-8. Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to modify the invention of Miyagi, as is well known in the art and shown by Gildenberg, to include a

video controller “capable of mixing signals representative of different images in accordance with desired formats,” and as further taught by Sklar et al., to provide the display means with an input means or “user interface” capable of displaying different images from different image sources in different quadrants of the display screen in order to provide the surgeon/user with an abundance of visual information regarding the operation site to further facilitate the procedure, and finally as is well known in the art and shown by Morgan et al. to provide the capability of moving windows or image windows when dealing with a plurality of image windows on one display screen in order to observe in an unobstructed fashion any particular image window by performing “drag and drop” procedures.

***Response to Amendment***

The examiner acknowledges the amendments to the abstract, drawings and specification and that these amendments overcome the previous objections.

Additionally, the examiner notes the cancellation of claims 1-25, the addition of claims 26-172, the subsequent election of species requirement and finally, the election of species #1, drawn to claims 26, 27, 29, 33-38, 40, 79-84 and 86. Although claims 56-61, 63, 102-107, 109, 125-131, 133, 149-155 and 157 were also elected, they were drawn to non elected material and were therefore withdrawn from further consideration. Only claims 26, 27, 29, 33-38, 40, 79-84 and 86 were examined.

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Finally, it should be noted that claim 26 is much broader than any of the previously objected to claims (claims 12, 15-19 and 24). Accordingly, art was applied and the properly elected claims and they were rejected.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

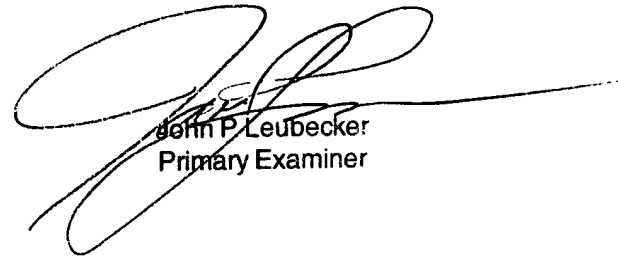
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron Roane whose telephone number is (703) 305-7377. The examiner can normally be reached on 9am - 5pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (703) 308-0994. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.R. A.R.  
February 3, 2004



John P. Leubecker  
Primary Examiner